

A-3336D

10/646, 217

PLEASE ENTER  
5/18/04  
WH

Specification Amendments

Replace the paragraph between page 8, line 23 and page 10, line 3 with the following:

--Referring now to the drawings and, first, particularly to Fig. 1 thereof, there is shown therein diagrammatically and schematically a two-color sheet-fed printing press. The printing press has two printing units 1 and 2 disposed serially, i.e., in unit construction, a feeder 3, and a delivery 4. The feeder 3 has a sheet pile 5, a separator or singularizer 6, a feeding table 7, and feed devices 8, 9. In each printing unit 1, 2, there is an impression cylinder or drum 10, 11, a transfer cylinder or drum 12, 13, a printing-form cylinder 14, 15, a dampening unit 16, 17 and an inking unit 18, 19. The impression cylinders 10 and 11 of the printing units 1 and 2, respectively, are mutually connected operatively with a transfer drum 20, a storage drum 21, and a reversing drum 22. The delivery 4 has a chain gripper system 23 and a sheet pile 24. To produce a printing form inside the printing press, an imaging head 25, 26 is allocated to each printing-form cylinder 14, 15, respectively. The elements 6, 8, and 9 of the feeder 3, which advance the sheet 27; the cylinders 10, 11, 12, 13, 14, 15, 20, 21, and 22 in and between the printing units 1 and 2; the driven rollers of the inking and dampening units 16 to 19; and the elements 27 of

the delivery 4, which advance the sheet 23, are connected to one another by way of a common gear train and are driven by a main drive motor 28. The printing-form cylinders 14 and 15 can also be driven by respective secondary drive motors 29 and 30. Rotary position transducers 31 and 32 are provided at the transfer cylinders 12 and 13, respectively, for detecting the angle of rotation of the transfer cylinders 12 and 13. A control device 33 is connected to the rotary position transducers 31 and 32 for the signal input and to the main drive motor 28, the secondary drive motors 29, 30 and the imaging heads 25, 26 for the signal output. The control device 33 also receives signals from an image data storage unit 34.--

Replace the paragraph between page 10, lines 5-24 with the following:

-- Fig. 2 more closely shows details of the drive of the printing press. Fig. 2 shows the printing-form cylinder 14 and the transfer cylinder 12, which are held in a sidewall 39 of the press with the journals 35 and 36 thereof in respective bearings 37 and 38. Gears 40 and 41 are secured on the respective journals 35 and 36. The gears 40 and 41, together with other gears 42, belong to a closed gear train, which is coupled with the main drive motor 28. For separately driving the printing-form cylinder 14, a secondary drive motor 29 is provided having a motor shaft 43 connected to the gear 40. The

secondary drive motor 29 is secured in a holding device 44. To detect the angle of rotation of the transfer cylinder 12, a rotary position transducer 45 31 is secured in the holding device 44 for the secondary drive motor 31 29, the transducer shaft 46 being connected to the gear 41. A control line 47 extends from the control device 33 to the secondary drive motor 29. The rotary position transducer 45 31 is connected to the control device 33 via a signal line 48. The drive in the printing unit 2 is constructed equivalent to that aforedescribed for the printing unit 1.--

Replace the paragraph between page 11, lines 1-13 with the following:

--Figs. 3 and 4 illustrate the functioning of the drive system. In the printing operation, the drive system operates in a first mode. The drive train is operated so that the sides or flanks of the teeth of the gears 40 and 41 and of those of the corresponding gears of the transfer cylinders 13 and the printing-form cylinder 15 14, respectively, in the printing unit 2, as represented in Fig. 3, are in contact with one another. The tooth flank or side contact is continuously maintained during the printing operation in order to prevent doubling phenomena. Expediently, the secondary drive motor 29 can also be operated so as to exert a slight braking

influence, so that the tooth flank or side contact is also maintained even when sharp load fluctuations occur.--

Replace the paragraph between page 11, line 15 and page 12, line 13 with the following:

--In the imaging operation, the drive system operates in a second operating mode. As represented in Fig. 4, the printing-form cylinders 14 and 15 are driven by the secondary drive motors 29 and 30, respectively, so that the tooth side or flank contact of the gears 40 and 41, and the corresponding gears of the transfer cylinder 13 and the impression cylinder 15, respectively, in the printing unit 2, is eliminated or is so slight that no mechanical disturbances are transferred to the printing-form cylinders 14 and 15 via the drive train. It is also possible for some of the gears belonging to the respective inking units 18 and 19, or dampening units 16 and 17, respectively, to be driven via the secondary drive motors 29 and 30. In order to eliminate the tooth flank or side contact or reduce it to a harmless scale, the actual values of the angle of rotation and the torsional vibrations that are present at the respective transfer cylinder 12, 13 are continuously fed to the control device 33 via the signal line 48. These signals are processed in the control device 33 into actuating signals for the main drive motor 29 28 and the secondary drive motors 29 and 30,

A-3336D

respectively. The control of the angular synchronicity of the gears 41 and 42 of the main drive train relative to the gears 40 of the secondary drive train is dynamic enough reliably to prevent tooth-flank or side contact between the gears 40 and 41.--

Replace the paragraph between page 12, lines 15-19 with the following:

--In another embodiment of the invention, it is possible, additionally, to process, in the control device 33, signals from additional rotary positional transducers 49 and 50, which are coupled with the rotation of the printing-form cylinders 14 and 15, respectively.--